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eliminate the systematic errors by combining the means of the two series, provided the conditions of observations are the same in both.

In our observations these conditions were not exactly fulfilled and the observed difference of 0.0012\AA between the means of the two series was reduced to 0.0006\AA when the observations were corrected by applying the empirical equations referred to above. The mean wave-length of the lines measured was λ_{4500} , so that this 0.0006\AA is equivalent to a difference between the observed and computed velocity of 0.04 km. per sec. for the two series. In all, 56 *Venus* plates were measured, the probable error for a single plate being ± 0.20 km. The calculated correction to the adopted solar parallax of $8''.80$ is $+0''.013 \pm 0''.017$.

The corrections deduced by Hinks from the photographic observations of *Eros* range from $+0''.014$ to $-0''.035$ for different observers, his adopted value being $+0''.007 \pm 0''.0027$ ⁷. In the spectroscopic determination at the Cape of Good Hope the corrections obtained from individual stars varied from $+0''.035$ to $-0''.036$, the adopted parallax being $8''.800 \pm 0''.006$. The parallax deduced from our *Venus* observations is a by-product from spectrograms taken for other purposes; since it falls well within the range shown by other determinations, it is probable that a very reliable parallax could be obtained from a program of observations planned for the purpose.

CHARLES E. ST. JOHN,
SETH B. NICHOLSON.

THE PLANETARY DISKS OF NOVA AQUILAE No. 3

Slitless spectrograms and visual observations of *Nova Aquilae* No. 3 with the 100-inch reflector show very distinct markings within the $H\alpha$ and N_1N_2 disks. On September 9, visual observations at the primary focus, with seeing 6 on a scale of 10, showed a bright bar crossing the nebular disk in p. 40° , approximately. The spectrograms made the same night show a short bright line crossing the center of the N_1N_2 disk, extending more to one side than the other. On September 10 the seeing averaged about 2, but at moments of better seeing the bar was easily observed.

On October 5, at the Cassegrain focus, with seeing 3, slitless spectrograms of 2, 6, and 10 minutes exposures were obtained with a focal plane spectrograph, the focus being intermediate between red and blue-green. A strong continuous spectrum appears, crossed by

⁷*M. N.*, **67**, 70, 1906.

heavy $H\alpha$ and nebular disks which show much detail. The nebular disk appears longer N-S, but its form may be influenced by the continuous spectrum; the $H\alpha$ disk, tho circular in outline, somewhat resembles a dumbbell. The bar in general resembles an S-shaped line twisted about the N-S axis; its brightest part is a central line in p. 40° roughly, extending from about $0'.5$ on the preceding side of the center to $1'$ on following side, and having a wisp on its following end.

The continuous spectrum is stronger across the disk, knots appearing at the points of intersection with the periphery. The $H\alpha$ disk is ill-defined on the preceding and following sides, and the nebulosity is concentrated more on the south side.

F. G. PEASE.

PARALLAXES OF TWO CEPHEIDS

The parallaxes of two Cepheid variables, RX *Aurigae* and RR *Lyrae*, were recently determined from 16 and 20 exposures, respectively. The results are:

$$\begin{aligned} \text{RX Aurigae} \dots \pi &= -0''.001 \pm 0''.005 \\ \text{RR Lyrae} \dots \pi &= +0''.006 \pm 0''.006 \end{aligned}$$

The photometric parallaxes, according to Shapley, are $+0''.0006$ and $+0''.0030$, respectively.

Adams finds that the spectroscopic parallax of RR *Lyrae* is $\pi = +0''.004$. Taking the mean of the three values of its parallax, we find the absolute magnitude is 0.0 at maximum and $+0.9$ at minimum. The velocity at right angles to the line of sight is 243 km./sec.; the radial velocity is 50 km./sec., giving a total velocity of nearly 250 km./sec., an extraordinary value for an object of high luminosity.

A. VAN MAANEN.

PARALLAX OF A FAINT STAR WITH LARGE PROPER MOTION

In the issue of this journal for December, 1918, I announced the discovery of a star of mag. 13.2 and proper motion $0''.377$; its position for 1900 is $\alpha = 4^h 53^m 11^s$, $\delta = +39^\circ 13'$. It was measured as a comparison star for deriving the parallax of Boss 1182, but was later rejected for this purpose on account of its large proper motion and presumably large parallax. A series of 16 exposures has now been measured, with a resulting parallax of only $+0''.010 \pm 0''.005$, indicating an absolute magnitude of $+8.2$ and a velocity at right angles to the line of sight of about 180 km./sec.

A. VAN MAANEN.